EMPIRICAL SURVEY REGARDING THE QUALITY COSTS IN THE ROMANIAN SERVICES COMPANIES[1]

Mariana Glăvan[1], Mădălina Dumitru[2] and Mihaela Dumitrana[3]
[1) 2) 3)] The Bucharest Academy of Economic Studies, Romania
E-mail: glăvan_emariana@yahoo.com
E-mail: mădălina.dumitru@soft-expert.info
E-mail: mihaelaadumitrana@yahoo.com

Abstract

Nowadays we notice that the services companies represent an important percentage in the economics of many countries. Considering their characteristics, these companies represent a challenge for the deployment of the cost accounting and consequently for the computation of the quality costs. In order to validate the theoretical studies concerning the quality costs, we made an empirical survey on a sample of Romanian services companies in the time range August – December 2008. Using the data obtained we reached the conclusion that the information concerning the quality costs are generated by the financial-accounting department and the time range in which the information concerning the costs computation is shorter for the bigger organizations. This information is used at all the levels of management of the companies.

Keywords: quality costs, empirical survey, services company, managerial accounting, analysis

JEL Classification: M19

Introduction

Traditional management accounting was inward looking, focusing on controlling costs, by using specific techniques, such as: costs systems, budgeting networks, standard costing and variance analysis.

During the 1950s and 1960s, the Western Industrialized nations enjoyed strong positions in international markets. There was little competition either on price or quality. Businesses could continue to be successful by just continuing to do what they had always done. During the 1970s the changes in the economic, social and cultural environment generated changes in the customers' requests focusing on quality services.

The economic globalization is an important factor that offered the clients the opportunity to refocus on the products and services that best suit their expectations. In time, the demands of the customers concerning the products and services offered by the organizations in general changed. At the local and global level was registered an increase in the competition and the companies, including the services ones, have to focus on a continuous improvement of the quality, while the clients become a strategic priority. The assessment of the resources

used and the computation of the services costs and their quality are only insured by the organization of the managerial accounting.

We can identify some characteristics of the management accounting in the services industries:

- more emphasis on quality of service. However, quality of service is harder to measure, due to simultaneity and heterogeneity;
- because of intangibility, it will be necessary to identify several measures of quality (Gervais, 2001);
- many service industries provide "personalized service", which means that each service is different, based on specific needs of the customer. This makes it difficult to define a standard cost which could be used for variance analysis;
- a higher portion of the cost of the service may be overheads, which means activity based approaches to costing may be more appropriate (Solle şi Saglietto, 2006);
- more contact with customers. In a manufacturing environment, the product is made in the factory. In service industry, the service is usually performed while the client is present.

These characteristics make the deployment of the cost accounting in the services sector a challenge: challenge concerning the cost-quality correlation.

The total quality management became a concept changed from a trend to a reality. That is why, by the chosen research, we intended to accomplish the conceptual and practical approach of the quality costs under the conditions of the concerns of the introduction of the total quality management in the services companies.

In our approach we started from the research achieved at international level in the quality costs domain in the services companies.

Asher (1988) approached the issue of the quality cost as an instrument for the improvement of the quality. The author presented differences between the quality costs in services and other industries. He also emphasized the need for the computation of the quality costs in the services area.

Atkinson et al. (1991) made a study for the analysis of the way in which the quality cost was measured successfully, reported, analyzed and applied in production and services. The study was performed with the involvement of a research team in public accounting, production, university domains. Within the study the managers of four big companies were interviewed in order to determine the reporting of the quality costs on organizational structures.

Shah and FitzRoy have conducted studies regarding the quality costs in different countries. The conclusions of the authors were that the reporting of costs concerning the quality is not widely accepted by companies everywhere in the world (according to Dzul Lopez and Garcia Villar, 2008), these conclusions being published in the paper "A review of quality cost survey" in 1998.

Dumitru et al. (2008) made a study concerning the computation of the quality costs under the existence of the TQM concept in the Romanian companies. The objectives of the study were to identify the type of companies that apply TQM, the quality costs classification used, the department where the information concerning the quality costs is produced and

the management level where the quality costs are used. The conclusions were that TQM is applied in the big and medium companies; the classification used is the one presenting the quality and non-quality costs; the needed information is supplied by the financial department and the information is used at all the management levels.

1. Approaches Concerning the Quality and the Quality Costs

The total quality concept does not refer strictly to the quality of the product/ service, but to the quality of all the activities of the company. Thus, each organization must try to satisfy at least three partners shareholder- client- employee. The promotion of quality products which respond to the clients' needs, the reduction of non quality costs- here are a few aspects of economic nature for any organization. But, the collaboration, involvement and participation of all the members of the organization are compulsory for the insurance of continuing improvement of quality. In Juran's and Crosby's conception, the auto control appears as a key factor of the total quality.

For a long time, the quality has been defined by reporting to rules and control. In present, it represents a bit to mobilize the whole company, but mostly it represents a performance factor.

The concept of *total quality* is a policy or a strategy of the organization in the field of quality, being one of its goals. The *total quality management* is the mean of accomplishing it. The total quality represents an assembly of principles and methods of organization in a global strategy, implying the mobilization of the entire company in order to obtain a better satisfaction of the client at a cost as small as possible.

What is TQM? TQM is an integrated and comprehensive system of planning and controlling all business functions so that products or services are produced which meet or exceed customer expectations (CIMA, 2005).

In 2006, the quality standard ISO 9000 presents the following definition of the total quality management: *the coordinated activities towards the guidance and control of an organization from the quality point of view.* The certification of the quality management system by an approved body in terms of respecting the standard ISO 9000 provides the necessary confidence degree to the client for satisfying the given requests regarding quality. An organization cannot exist without clients, that is why it has to use all the means to satisfy their needs.

TQM is a long-term strategy of the company that determines a continuous improvement of the quality of products and services, as well as of the ability of the management to satisfy the clients' needs and, in the same time, to create conditions of increasing the labor productivity and, implicitly, the profit (Stanciu, 2003).

TQM is a business strategy which is focused not only on the empowerment and on the involvement of the employees, but also on the quality costs.

The basic concepts regarding costs are useful for the theory and deployment of quality cost. By analyzing the specialized literature, it can be observed that a general definition of quality costs does not exist.

The cost of quality can be defined as the difference between the costs of producing, selling and supporting products/services and the equivalent costs if there were no failures during production (CIMA, 2005).

Masser (1961), quoted by Olaru (1999), separated the costs concerning the quality into three categories: prevention costs, appraisal costs and failure costs. This classification of costs forms the traditional PAF model (**P**revention, **A**ppraisal, **F**ailure): the investments in the activities of prevention and appraisal will generate a decrease in the failure costs, while an increase of the investments in the prevention activities will involve a decrease in the appraisal costs. Later, Feigenbaum (1974) separated the failure costs into costs of internal failure and costs of external failure.

The costs related to quality can also be classified as conformance and non-conformance costs (Crosby, 1979). This classification, similar to the traditional model, has as a basis the perception of Crosby (1979) regarding the quality of "according to the requirements".

The conformance costs are the costs of assuring the conformity with the specified quality standards. They include:

- *The prevention* costs are the costs incurred prior to or during production, corresponding to the coming forth activities for prevailing the appearance of flaws or, in other words, the costs of all those activities among which the elimination in advance of the causes that can determine lack of quality is tries, such as investments in machinery, technology, training. Here all the necessary measures for the prevention of failures are included;
- *The appraisal costs* are computed in order to confirm that the final product or service observe the quality standards and the performance expected; it is computed after the product was obtained or the service was performed, but before getting to the customer/consumer. It represents everything that was spent in order to see if the result of a process corresponds to the standard and if it is in accordance with the specific quality. These valuation activities are done because the organization is not sure that all they invested in the prevention was totally efficient.

The non-conformance costs derive from the unachievement of some of the requirements specified by the quality standards concerning the products or the services, final or intermediary. These costs are classified in two main types:

- *Costs for internal failure* generated by the poor quality that imply the organization, as a consequence of the errors occurred during the processes and activities, but not detected before the delivery of the product or service to the client;
- *Costs for external failure* are associated to the flaws of the bad quality that can be found after the products or services were transmitted to the client. The organization bears these costs because the valuation system didn't detect all the errors. These costs would have gone if no flaw appeared.

The non-quality (non-conformance) costs can be: quantifiable and non-quantifiable. The *quantifiable costs* of non-quality can be: the cost of redoing the wrong done works; the discounts granted for various minor flaws; the cost of the refused products for non-quality; the cost of the errors of specifications in orders, of the juridical actions taken by the clients for the damages caused in the case of the products sold with flaws; the expenses and the investments made for the quality of products valuation in order to detect the non-quality; the cost of maintaining bigger inventories of raw materials for a quick correction of the

effects of a production of inadequate quality and so on. Among the *non-quantifiable costs* of non-quality we can mention: the loss of an order, a client or a market as a result of the sales of inferior quality products; the reorganizations made for adapting the activities coming from the production of insufficient activities and others.

2. Research Methodology

In 2008, Dumitru et al. made an empirical study by sending questionnaires by e-mail to more than 200 Romanian companies. In the chosen sample were included all the companies on the Stock Exchange web site. At this study, the authors received only 8 answers. For this reason, for the present study, we chose another method: we contacted 11 companies that provide accounting services who put us in touch with the services provider companies to which we sent the questionnaires. The study was made in the period August-December 2008 and the analysis relied on a sample of 42 services providers companies, of which 25 small and medium companies an 18 big companies.

The research hypothesis we wanted to test in this study are:

H1. The classification of the quality costs used by the Romanian services provider companies depends on the size of the company

H2. In the Romanian services companies, the percentage of the quality costs exceeds 30% of the turnover

H3. The information concerning the quality costs is obtained in the financial department in collaboration with the quality department in case of the big companies

H4. The time period in which the information regarding the quality costs is asked is shorter in the case of the big companies.

H5. The information obtained by computing the quality costs is used at all the management levels.

The questionnaire used was structured on the following sections:

- section one: for obtaining the information concerning the identification of the company, the size of the organization, the activity domain, the existence or the non-existence of a management of the quality costs;
- section two: to obtain information concerning the classification of the costs concerning the quality, the importance given to the costs categories concerning the quality, the percentage of the costs concerning the quality in the turnover, the department/departments involved in the computation and reporting of quality costs, the timing of computation and reporting of quality costs, the users of the reports concerning the quality costs, the means for which are made the accounting and reporting of the total costs of quality, the causes for which the accounting and reporting of quality cost are not made.

We considered that the big companies are the ones that fulfill at least two of the following conditions: they have a number of employees bigger than 50 persons, they registered in 2007 a bigger turnover than 1,000,000 EUR or they had in 2007 total assets bigger than 1,000,000 EUR.

In order to assess the importance given to the quality costs on their structure (prevention costs, appraisal costs, internal failure costs, external failure costs) we used a four levels scale: form 1 (for the less important) to 4 (for the most important).

3. Results of the Study

Our approach materialized in getting 43 answers to the questionnaire. In the process of building the database for the analysis of the information, we noticed that 5 questionnaires were incorrectly fulfilled (of which 3 received from the small and medium companies and 2 from the big companies) either for the activity sector, either for the attribution of points from 1 to 4, either incomplete or even either non-observing the correlations between the questions (two questionnaires). The wrong questionnaires were excluded. After the first selection step we had 38 questionnaires left. We noticed that 8 companies (21% of the answers received), included in the *small and medium* size category don't use the quality cost management system. Out of them, 6 companies don't intend to implement such a system, while two companies expressed their intention to use a quality cost management system. So, 36% of the small and medium companies in the services sector don't use a system for reporting and computing the quality cost, while in the responding big companies such a system exists. Generally, the causes of the non-computation and non-reporting of the quality costs are related to the computation manner of these costs (difficulties for the classification of certain expenses in order to determine the costs concerning the quality, as well as the computation method) and to the profitableness (the increase of the costs of the company, involving a reduction of the profit on a short term). The respondents of 2 of the analyzed companies considered that the plain existence of a department for quality is enough or the increase in the products quality and decrease in the quality costs. At the level of one company, the respondent considered that the objectives of the reduction of the costs could be affected by organizing a management system of the quality costs, this being a reason for not using the management system of the quality costs.

Thus, the answers taken into account and analyzed were received from 30 companies: 40 *small and medium* companies (47%) and 16 *big* companies (53%). At the level of these companies a quality cost management system exists.

HYPOTHESIS 1

71% of the small and medium companies use the costs classification using the Crosby model, while 21% of the questioned companies use the PAF traditional model. Regarding the big companies, 75% of the respondents use the traditional PAF model, 19% Crosby model and 6% said that they use another classification. We can notice a focus of the big companies towards the traditional model and of the small and medium companies towards the Crosby model. Under these circumstances, the first hypothesis of the research is validated.

HYPOTHESIS 2

In the services companies, the share of the costs regarding the quality exceeds many times 33% of the total revenues (Bohan and Horney, 1991). For the sample of enterprises analyzed in the greatest share of the costs as to the turnover, namely 60%, was recorded at the level of small and medium companies (three companies). Also at these companies level, shares which exceed the threshold of 30% were recorded: 30% (at one company), 40% (at

two companies). At the level of large companies only two of them exceeded the threshold mentioned, thus o share of 50% of the turnover being recorded. For all types of companies also very small shares were recorded (for example: of 1%, 3% and 5% of the turnover).

The results obtained didn't confirm second research hypothesis concerning the outpacing of the 30% level of the quality costs in the turnover. The big variance of percentages from 1 to 60% can be explained by the incorrect use of the computation methodology of the quality costs and by the way of measuring the content elements. In the same time, the results obtained allowed us to draw the conclusion that there is no direct correlation between the size of the organization and the percentage of costs concerning the quality in the turnover.

HYPOTHESIS 3

At the large companies level, 90% of the respondents have stated that the information regarding the quality cost belong to the financial-accounting department which works very closely with the quality department, and 10% of the respondents consider that the data is supplied by the financial-accounting department. 64% of the respondents from the small and medium companies obtain this information from the financial-accounting department, and the rest say that the information comes from the financial-accounting department which works closely with the quality department. Therefore, we can notice that the quality department is not directly involved in the calculation of these costs. We notice thus that the quality department is not directly involved in the computation of these costs. We consider that the results obtained validate the third hypothesis.

HYPOTHESIS 4

75% of the large companies calculate and report the costs regarding total quality monthly, and 25% annually. Regarding the small and medium companies, 57% calculate monthly, 36% half-yearly and 7% annually. We notice thus that most of the big companies compute the quality costs monthly, which validates our research hypothesis.

HYPOTHESIS 5

The information regarding the total quality costs is utilized by the superior and medium management at the large companies' level, while at the level of small and medium companies 79% of them are for the superior and medium level of management and 21% for the inferior management control.

The results obtained allow the validation of the last assumption. We consider that the systematic supply of some information at all the management control levels regarding total quality costs allows the adoption of decision in real time.

Conclusions

The increase in the long time profit represents the main purpose of the accounting and reporting of the total quality costs, both for the big services companies and for the small and medium ones, the organizations trying as well to improve the processes, strategic planning and to reduce the non-quality costs. Two companies out of fourteen in the small and medium companies' category compute the quality costs only for the information. The increase in the products quality represent an important target pursued by this system by the

small and medium companies, while the big companies grant it a reduced importance (only two organizations out of sixteen are after this target).

From the analysis made resulted that a too little number of companies (two out of thirty) focus on the increase of the products quality along with the identification and reduction of the quality costs, their main objective being only the increase in profits as a consequence of the general reduction in costs.

We consider that a limit of our research is the fact that the database prepared for this study was not big enough for the purpose stated in this paper because of the reluctance of the Romanian companies to provide information about their own activity, reluctance that is most of the time an unbearable barrier in all the activities. A consequence was the big variation obtained in the analysis of the answers supplied by the respondents (for instance, the one concerning the percentage of the quality costs in the turnover).

Through this empirical survey we could notice the fact that there are services companies in Romania preoccupied by the computation of the quality costs of the services, costs that represent a method of increasing the efficiency and quality at the level of these companies.

The research conducted allows us to consider that there is a small number of studies concerning the quality costs computed in the services companies in Romania. Thus, we consider that the results obtained represent an important step in the research process from the area, in general, and at the level of services companies, in particular. In the future, we propose ourselves to develop the research also at the level of the production enterprises in Romania and the achievement of a comparative study.

References

1. Asher, J.M. (1988), Cost of Quality in Service Industries, International Journal of Quality & Reliability Management, vol 5
2. Atkinson, J.H. Jr, Hohner, G., Mundt, B., Troxel, R.B., Winchell, W. (1991), Current Trends in Cost of
3. Quality: Linking the Cost of Quality and Continuous Improvement, NAA Publication, Montvale
4. Bounds, G., Yorks, L., Adams, M., Ranney, G. (1994), Beyond total quality management. Toward the emerging paradigm, New York : Mc Graw-Hill International Editions
5. Crosby, P. (1979), Quality is free, New York: Ed. McGraw-Hill
6. Daily, B. F., Weisinger, J. Y., Holman, N., Govindarajulu, N., (2006), The Deming framework as context for exploring cost of quality in arts and cultural organisations , Vol. 2, No 4
7. Dumitrana, M., Jianu, I., Popa, A., Dumitru, M. (2008), Rolul contabilității în managementul calității totale, Congresul CECCAR al Profesiei Contabile, Bucureşti, 2008

8. Dumitru, M., Glăvan, M., Popa, A., Radu G. (2008), Empirical study concerning the costs under the TQM paradigm in the practice of the Romanian companies, 3rd International Conference on Business Excellence, Braşov, 2008

9. Dzul López, L. A., Gracia Villar, S. (2008), Análisis de los sistemas de gestión de los costos de la calidad en la industria de la construcción , Ingenieria , 12 (3) : 53-61

10. Feigenbaum, A.V. (1961), Total Quality Control, Mc.Graw-Hill, New York

11. Garvin, D.A. (1987), Competiting on the eight dimension of quality, Harvard Business Review, no. 11-12

12. Gervais, M. (2001), Controle de gestion des activites de services, în Encyclopedie de Comptabilite, Controle de Gestion et Audit, B. Colasses (ed.), pag. 483-497, Economica, Paris

13. Juran, J. (1974), Quality Control Handbook, McGraw-Hill, New York

14. Olaru, M. (1999), Managementul calităţii, Editura Economică, Bucureşti,

15. Paunescu, C. (2006), Quality Management, Bucureşti, Ed. ASE

16. Solle, G., Saglietto, L. (2006), L'evolution du controle de gestion au Coeur des secteurs des services, AMIS 2006, pag. 400-411

17. Stanciu, I. (2003), Managementul calităţii totale, Bucureşti, Ed. Cartea Universitară "ISO 9000" 2006

18. The Chartered Institute of Management Accountants (2005), CIMA Official Terminology, CIMA Publishing

http://www.elders.ro/definitii.htm

[1] The article is part of the research financed by the CNCSIS contract 1858/2009 *Management control in the sustainable development of the human ressources*, project manager phd. prof. Dumitrana Mihaela